

CLAIMS

1. A transmission board comprising:

a frame body;

5 at least one surface board that is supported by said frame body and has at least one transmission circuit with a connection pad on a surface thereof;

10 at least one plugging edge that is provided on said frame body and has at least one guiding slope for guiding a terminal of a mating connector toward said connection pad; and

15 said plugging edge being made of a metal or resin molding.

2. The transmission board according to claim 1,

15 wherein a plurality of said surface boards are spaced at a constant distance by said frame body such that said transmission circuits are opposed to each other.

20 3. The transmission board according to claim 2, wherein said opposed transmission circuits have a characteristic impedance of approximately 100 ohms in differential operation.

25 4. The transmission board according to claim 2, wherein said surface boards define a layer of air or material having a relative permittivity and a dielectric loss tangent that are lower than those of a glass reinforced epoxy resin.

30 5. The transmission board according to claim 2, wherein said transmission circuits include at least one ground circuit and at least one signal circuit provided on an outside and an inside of said surface board, respectively, and said connection pads are provided on said outside, with said signal circuit is connected to said connection pad through said surface board.

6. The transmission board according to claim 1,
which further comprising at least one projecting guide
extending from an end of said plugging edge in a plugging
direction such that upon plugging with a mating connector,
5 it enters a corresponding groove of said mating connector
before said plugging edge abuts against a terminal of said
mating connector and having at least one raised portion on
a top or bottom face thereof.

7. The transmission board according to claim 2,
10 wherein said transmission circuit provided on an inside of
said surface board is connected to said connection pad
provided on an outside at a position relatively close to an
edge of said surface board.

8. The transmission board according to claim 2,
15 wherein said connection pad is provided with an extended
contact that is bent at said plugging edge so as to cover
said guiding slope.

9. The transmission board according to claim 1,
wherein said surface board has at least one signal circuit
20 provided on an inside thereof and at least one ground
circuit provided on an outside thereof as said transmission
circuits, and at least one signal connection pad provided
on said outside close to said plugging edge and connected
to said signal circuit through said surface board and at
25 least one ground connection pad provided on said outside
and spaced from said plugging edge but close to said signal
connection pad, and said ground connection pad provided
with an extended portion that is aligned with said signal
connection pad.

30 10. The transmission board according to claim 1,
wherein said guiding slopes have different sloping angles
corresponding to said connection pads.

11. The transmission board according to claim 1, wherein said guiding slopes are offset in a plugging direction.

12. The transmission board according to claim 1, 5 wherein said plugging edge has a top face higher than said surface board on a side adjacent to said surface board.

13. The transmission board according to claim 1, 10 wherein said frame body is provided with at least one projecting guide that projects from said plugging edge in a plugging direction and has a vertical length that is larger than that of said plugging edge.

14. The transmission board according to claim 13, wherein said projecting guide is tapered in both vertical and horizontal directions.

15 15. The transmission board according to claim 13, wherein at least one of said projecting guides has a different cross-section from the other said projecting guides in a plane perpendicular to said plugging direction.

16. The transmission board according to claim 1, 20 wherein said frame body is provided with a stopper portion that abuts against said mating connector when said transmission board is plugged to a predetermined position.

17. The transmission board according to claim 1, 25 wherein said frame body is provided with a lock member for preventing separation from said mating connector.

18. The transmission board according to claim 1, 30 wherein said frame body is provided with a slit portion for receiving an engaging portion of a linking member for holding a plurality of said transmission boards at regular intervals.

19. The transmission board according to claim 1, wherein said surface board and said frame body are provided with a hole or notch and a boss or projection, respectively,

for engagement with each other and deformation under heat and pressure.

20. The transmission board according to claim 1, wherein said frame body is provided with two said plugging edges, one of said plugging edges is provided at an end with a projecting guide that projects in a plugging direction and has a vertical width larger than that of said plugging edge.

10 21. A connector assembly consisting of at least one connector and at least one transmission board connected to said connector, wherein said transmission board comprising:

15 a frame body;
at least one surface board supported by said frame body and having at least one transmission circuit and at least one connection pad provided on at least one edge thereof,

20 said frame body is provided with at least one plugging edge made of a metal or resin molding.

22. A connector assembly consisting of at least one connector and at least one transmission board connected to said connector, wherein said transmission board comprising:

25 a frame body;
a pair of surface boards each having at least one edge and supported by said frame body at a regular interval such that transmission circuits thereof are opposed to each other and,

30 said frame body being provided with at least one plugging edge that extends along said edge, has at least one guiding slope, and is made of a metal or resin molding.

23. The connector assembly according to claim 22, wherein said opposed circuits are made so as to have a

characteristic impedance of approximately 100 ohms in differential operation.

24. The connector assembly according to claim 22, wherein said opposed surface boards define, in cooperation 5 with said frame body, a layer of air or material having a relative permittivity and a dielectric loss tangent lower than those of a glass reinforced epoxy resin.

25. The connector assembly according to claim 22, wherein said pair of surface boards have, as said 10 transmission circuits, a ground circuit and a signal circuit on an outside and an inside thereof, respectively, and connection pads on said outside, with said signal circuit connected to said connection pad through said surface board.

15 26. The connector assembly according to claim 22, wherein said frame body is provided with a plurality of said plugging edges that are provided in correspondence with a plurality of said edges having said connection pads thereon and connectable to a plurality of connectors.

20 27. The connector assembly according to claim 26, wherein said frame body is provided with at least one projecting guide projecting from said plugging edge in said plugging direction so that a tip thereof enters a corresponding groove of said connector upon plugging before 25 a terminal of said connector abuts against said plugging edge and a lock member for preventing separation from said connector when said transmission board engages with said connector at a predetermined position.

30 28. The connector assembly according to claim 22, wherein said frame body is provided with a slit into which a linking member is inserted to link a plurality of said transmission boards.